

MATERIAL SAFETY DATA SHEET

Product Trade Name: BENSEAL®

Revision Date: 05-Jan-2005

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Statement of Hazardous Nature Not classified as hazardous according to criteria of WorkSafe

Manufacturer/Supplier Halliburton/Baroid Australia Pty. Ltd.
53-55 Bannister Road
Canning Vale
WA 6155
Australia

ACN Number: 009 000 775
Telephone Number: 61 (08) 9455 8300
Fax Number: 61 (08) 9455 5300

Product Emergency Telephone (USA)

Australia: 0011 1 713 753 3000
Papua New Guinea: 05 1 713 753 3000
New Zealand: 00 1 713 753 3000

Fire, Police & Ambulance - Emergency Telephone

Australia: 000
Papua New Guinea: 000
New Zealand: 111

Identification of Substances or Preparation

Product Trade Name: BENSEAL®
Synonyms: None
Chemical Family: Mineral
UN Number: None
Dangerous Goods Class: None
Subsidiary Risk: None
Hazchem Code: None
Poisons Schedule: None
Application: Viscosifier

Prepared By Chemical Compliance
Telephone: 1-580-251-4335

2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE	CAS Number	PERCENT	Australia NOHSC	ACGIH TLV-TWA
Crystalline silica, cristobalite	14464-46-1	0 - 1%	Not determined	0.05 mg/m ³
Crystalline silica, tridymite	15468-32-3	0 - 1%	Not determined	0.05 mg/m ³
Crystalline silica, quartz	14808-60-7	1 - 5%	Not determined	0.05 mg/m ³
Bentonite	1302-78-9	60 - 100%	Not determined	Not applicable

Total to 100%

3. HAZARDS IDENTIFICATION

Hazard Overview

CAUTION! - ACUTE HEALTH HAZARD

May cause eye and respiratory irritation.

DANGER! - CHRONIC HEALTH HAZARD

Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposures below recommended exposure limits. Wear a NIOSH certified, European Standard EN 149, or equivalent respirator when using this product. Review the Material Safety Data Sheet (MSDS) for this product, which has been provided to your employer.

Hazard Ratings

Flammability:	0
Toxicity:	0
Body Contact:	0
Reactivity:	0
Chronic:	4

Scale: Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4

4. FIRST AID MEASURES

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Skin	Wash with soap and water. Get medical attention if irritation persists.
Eyes	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Ingestion	Under normal conditions, first aid procedures are not required.
Notes to Physician	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	All standard fire fighting media
Unsuitable Extinguishing Media	None known.
Special Exposure Hazards	Not applicable.
Special Protective Equipment for Fire-Fighters	Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures Use appropriate protective equipment. Avoid creating and breathing dust.

Environmental Precautionary Measures None known.

Procedure for Cleaning / Absorption Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

7. HANDLING AND STORAGE

Handling Precautions This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet.

Storage Information Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Do not reuse empty container. Product has a shelf life of 60 months.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits listed in Section 2.

Respiratory Protection Wear a NIOSH certified, European Standard EN 149, or equivalent respirator when using this product.

Hand Protection Normal work gloves.

Skin Protection Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.

Eye Protection Wear safety glasses or goggles to protect against exposure.

Other Precautions None known.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Color:	Various
Odor:	Mild earthy
pH:	8-10
Specific Gravity @ 20 C (Water=1):	2.6
Density @ 20 C (kg/l):	Not Determined
Bulk Density @ 20 C (kg/m³):	Not Determined
Boiling Point/Range (C):	Not Determined
Freezing Point/Range (C):	Not Determined
Pour Point/Range (C):	Not Determined
Flash Point/Range (C):	Not Determined
Flash Point Method:	Not Determined
Autoignition Temperature (C):	Not Determined
Flammability Limits in Air - Lower (g/m³):	Not Determined
Flammability Limits in Air - Lower (%):	Not Determined

Flammability Limits in Air - Upper (g/m ³):	Not Determined
Flammability Limits in Air - Upper (%):	Not Determined
Vapor Pressure @ 20 C (mmHg):	Not Determined
Vapor Density (Air=1):	Not Determined
Percent Volatiles:	Not Determined
Evaporation Rate (Butyl Acetate=1):	Not Determined
Solubility in Water (g/100ml):	Insoluble
Solubility in Solvents (g/100ml):	Not Determined
VOCs (g/l):	Not Determined
Viscosity, Dynamic @ 20 C (centipoise):	Not Determined
Viscosity, Kinematic @ 20 C (centistokes):	Not Determined
Partition Coefficient/n-Octanol/Water:	Not Determined
Molecular Weight (g/mole):	Not Determined
Decomposition Temperature (C):	Not Determined

10. STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid	None anticipated
Incompatibility (Materials to Avoid)	Hydrofluoric acid.
Hazardous Decomposition Products	Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).
Additional Guidelines	Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
Inhalation	<p>Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).</p> <p>Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).</p>
Skin Contact	May cause mechanical skin irritation.
Eye Contact	May cause eye irritation.
Ingestion	None known
Aggravated Medical Conditions	Individuals with respiratory disease, including but not limited to asthma and bronchitis, or subject to eye irritation, should not be exposed to quartz dust.

Chronic Effects/Carcinogenicity Silicosis: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

Cancer Status: The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2).

There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

Other Information For further information consult "Adverse Effects of Crystalline Silica Exposure" published by the American Thoracic Society Medical Section of the American Lung Association, American Journal of Respiratory and Critical Care Medicine, Volume 155, pages 761-768 (1997).

Toxicity Tests

Oral Toxicity:	Not determined
Dermal Toxicity:	Not determined
Inhalation Toxicity:	Not determined
Primary Irritation Effect:	Not determined
Carcinogenicity	Refer to <u>IARC Monograph 68, Silica, Some Silicates and Organic Fibres</u> (June 1997).
Genotoxicity:	Not determined
Reproductive / Developmental Toxicity:	Not determined

12. ECOLOGICAL INFORMATION

Mobility (Water/Soil/Air) Not determined

Persistence/Degradability Not determined

Bio-accumulation Not Determined

Ecotoxicological Information

Acute Fish Toxicity:	TLM96: 10000 ppm (Oncorhynchus mykiss)
Acute Crustaceans Toxicity:	Not determined
Acute Algae Toxicity:	Not determined

Chemical Fate Information Not determined

Other Information Not applicable

13. DISPOSAL CONSIDERATIONS

Disposal Method Bury in a licensed landfill according to federal, state, and local regulations.

Contaminated Packaging Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION

Land Transportation

ADR Not restricted

Air Transportation

ICAO/IATA

Not restricted

Sea Transportation

IMDG

Not restricted

Other Shipping Information

EPG: Not determined

IERG: Not determined

Labels: None

15. REGULATORY INFORMATION

Chemical Inventories

Australian AICS Inventory Not Determined

US TSCA Inventory All components listed on inventory.

EINECS Inventory This product, and all its components, complies with EINECS

Classification Crystalline silica is not classified as a carcinogen in EU Council Directives 67/548/EEC and 88/379/EEC.

Risk Phrases None

Safety Phrases None

16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS

Not applicable

Contact

Australian Poisons Information Centre

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

New Zealand Poisons Information System

Deunedin: -(03) 479 1200 (Normal Hours)

-(03) 474 0999 (Emergency)

Additional Information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Chemical Compliance at 1-580-251-4335.

Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

*****END OF MSDS*****



MATERIAL SAFETY DATA

Revised January 1, 2008

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **Super Mud Dry**
SYNONYMS : None
CHEMICAL FAMILY : Anionic polyacrylamide copolymer
MOLECULAR FORMULA : Polymer
MOLECULAR WEIGHT : Polymer

PDSCo, P.O. BOX 507, 105 WEST SHARP STREET, EL DORADO, AR 71730 USA
EMERGENCY PHONE: For emergency call PDSCo: 1 (800) 243-7455

2. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA REGULATED COMPONENTS				
COMPONENT	CAS. NO.	%	TWA/CEILING	REFERENCE

No permissible Exposure Limits (PEL/TLV) have been established by OSHA or ACGIH

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE AND ODOR : Off-white granular solid
STATEMENTS OF HAZARD : IMPORTANT! SPILLS OF THIS PRODUCT ARE VERY SLIPPERY WHEN WET

POTENTIAL HEALTH EFFECTS

EFFECTS OF OVEREXPOSURE:

This product has an acute oral (rat) LD50 and acute dermal (rabbit) LD50 of > 2.5 g/kg and >10.0 g/kg respectively. This product produced no eye irritation and no dermal irritation during primary irritation tests in rabbits. The inhalation of the vapors is not likely to cause adverse health effects.

4. FIRST AID MEASURES

In case of skin contact, wash affected areas of skin with soap and water.
In case of eye contact, immediately irrigate with plenty of water for 15 minutes.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT : Not applicable
FLAMMABLE LIMITS
(% BY VOL) : Not applicable
AUTOIGNITION TEMP : Not available
DECOMPOSITION TEMP : Not available

EXTINGUISHING MEDIA AND FIRE FIGHTING INSTRUCTIONS

As with many solids, any dust that is generated may be explosive if mixed with air in critical proportions and in the presence of a source of ignition. Use water, carbon dioxide or dry chemical to extinguish fires. Wear self-contained, positive pressure breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Spilled material becomes very slippery when wet. Sweep up spills and place in a waste disposal container. Flush the area thoroughly with water and scrub to remove residual. If slipperiness remains, apply more dry-sweeping compound. Do not flush large quantity of the material to sewer.

7. HANDLING AND STORAGE

Spills should be scooped up or wiped up immediately, and spill area flushed with water.

Maintained good housekeeping to control dust accumulations.

To avoid product degradation and equipment corrosion, do not use iron, copper or aluminum container or equipment.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT (PPE)

Engineering controls are not usually necessary if good hygiene practices are followed. Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. Avoid unnecessary skin contact. Impervious gloves are recommended to prevent prolonged skin contact. For operations where eye or face contact can occur, eye protection is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR	:	Off-white granular solid
BOILING POINT	:	Not applicable
MELTING POINT	:	Not available
VAPOR PRESSURE	:	Not applicable
SPECIFIC GRAVITY	:	48 - 55; lb/ft ³
VAPOR DENSITY	:	Not applicable
% VOLATILE (BY WT)	:	8 - 12; (water)
pH	:	7 - 9; (aqueous solution)
SATURATED IN AIR (BY VOL)	:	Not applicable
EVAPORATION RATE	:	Not applicable
SOLUBILITY IN WATER	:	Limited by viscosity

10. STABILITY AND REACTIVITY

STABILITY	:	Stable
CONDITIONS TO AVOID	:	None known
POLYMERIZATION	:	Will not occur
CONDITIONS TO AVOID	:	None known
INCOMPATIBLE MATERIALS	:	Strong oxidizing agents
HAZARDOUS DECOMPOSITION PRODUCTS	:	Thermal decomposition or combustion may produce carbon monoxide, carbon dioxide, ammonia, and/or oxides or nitrogen.

11. TOXICOLOGICAL INFORMATION

Toxicological information on the OSHA regulated components of this product is as follows:

Not Applicable

12. ECOLOGICAL INFORMATION**LC50**

BLUEGILL, 96 HOUR: 180 mg/L

TROUT, 96 HOUR: 130 mg/L

DAPHNIA, 48 HOUR: > 1000 mg/L

OCTANOL/H₂O PARTITION COEF.: Not available**13. DISPOSAL CONSIDERATIONS**

Disposal must be made in accordance with applicable governmental regulations.

14. TRANSPORT INFORMATION

	D.O.T SHIPPING INFORMATION	IMO SHIPPING INFORMATION
SHIPPING NAME :	Not applicable/Not Regulated	Not applicable/Not Regulated
HAZARD CLASS/ PACKING GROUP :	Not applicable	Not applicable
UN NUMBER :	Not applicable	Not applicable
IMDG PAGE :	Not applicable	Not applicable
D.O.T HAZARDOUS SUBSTANCES :	(Product Reportable Quantity) Not applicable	Not applicable
TRANSPORT LABEL REQUIRED :	None required	None required
	ICAO/IATA	TRANSPORT CANADA
SHIPPING NAME :	Not applicable/Not Regulated	Not applicable/Not Regulated
HAZARD CLASS :	Not applicable	Not applicable
SUBSIDIARY CLASS :	Not applicable	Not applicable
UN / ID NUMBER :	Not applicable	Not applicable
PACKING GROUP :	Not applicable	Not applicable
TRANSPORT LABEL REQUIRED :	None required	None required
PACKING INSTRUCTIONS :	Passenger Not applicable Cargo Not applicable	Not applicable
MAX NET QTY :	Passenger Not applicable Cargo Not applicable	Not applicable
	ADDITIONAL TRASPOT INFORMATION	
TECHNICAL NAME (N.O.S.) :	Not applicable	

15. REGULATORY INFORMATION**INVENTORY INFORMATION**

- US TSCA : This product is manufactured in compliance with all provisions of the Toxic Substances control Act, 15 U.S.C.
- CANASA DSL : Components of this product have been reported to Environment Canada in accordance with subsection 25 of the Canadian Environmental Protection Act and are included on the Domestic Substances List.
- EEC EINECS : All components of this product are included on the European Inventory of Existing Chemical Substances [EINECS] in compliance with Council Directive 67/548/EEC, Amended 79/831/EEC.

OTHER ENVIRONMENTAL INFORMATION

The following components are defined as toxic chemicals subject to reporting requirements of Section 313 of Title III and of 40 CFR 372 or subject to other EPA regulations.

COMPONENT	CAS. NO.	%	TPQ(lbs)	RQ (lbs)	S313	RCRA	TSCA 12B
This product does not contain any components regulated under these sections of the EPA							

PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA
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Not applicable under SARA TITLE III

16. OTHER INFORMATION**NFPA HAZARD RATING (National Fire Protection Association)**

Fire	1	FIRE	: Materials that must be preheated before ignition can occur.
Health	0	HEALTH	: Materials which on exposure under fire conditions would offer no hazard beyond that of ordinary combustible material.
Reactivity	0	REACTIVITY	: Materials which in themselves are normally stable, even under fire exposure conditions, and which are not reactive with water.
Special	-		

REASON FOR ISSUE:

Revised Section 3

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